

Amendments to the Claims

Please amend the claims as follows (the changes are shown with ~~striketrough~~ for deleted matter and underlining for added matter). A complete listing of the claims is set out below with proper claim identifiers.

1. (Original) A method for forming an oxide film on a metal surface, the method comprising anodization in the presence of an ionic liquid.

2. (Original) The method for forming an oxide film on a metal surface according to claim 1, wherein a defect of an oxide film previously formed on a metal surface is repaired by the anodization in the presence of an ionic liquid.

3. (Currently Amended) The method for forming an oxide film on a metal surface by anodization according to claim ~~1 or 2~~, wherein the metal is at least one selected from aluminum and/or alloys thereof, tantalum and/or alloys thereof, and niobium and/or alloys thereof.

4. (Currently Amended) The method for forming an oxide film on a metal surface according to ~~claims 1 to 3~~claim 1, wherein an anion component of the ionic liquid is an atomic group containing fluorine.

5. (Currently Amended) The method for forming an oxide film on a metal surface according to ~~claims 1 to 3~~claim 1, wherein an anion compound of the ionic liquid is an atomic group containing a sulfonic acid anion ($-\text{SO}_3^-$).

6. (Currently Amended) The method for forming an oxide film on a metal surface by anodization according to

~~claims 1 to 3~~claim 1, wherein an anion component of the ionic liquid is an atomic group containing a carboxylate anion (-COO^-).

7. (Currently Amended) The method for forming an oxide film on a metal surface according to ~~claims 1 to 6~~claim 1, wherein a cation component of the ionic liquid is at least one selected from imidazolium derivatives, ammonium derivatives, and pyridinium derivatives.

8. (Currently Amended) The method for forming an oxide film on a metal surface by anodization according to ~~claims 1 to 7~~claim 1, wherein a solution containing an ionic liquid and at least one selected from ammonium salts, amine salts, quaternary ammonium salts, tertiary amines, and organic acids is used.

9. (Currently Amended) An electrolytic capacitor comprising means for the method according to ~~claims 1 to 8~~claim 1 for repairing an oxide film.

10. (Original) An electrolytic capacitor comprising a solution containing at least one ionic liquid and used as an electrolyte serving as means for repairing an oxide film.

11. (Original) The electrolytic capacitor according to claim 10, wherein the solution further contains a conductive polymer.

12. (Original) The electrolytic capacitor according to claim 11, wherein the conductive polymer is at least one selected from polypyrrole, polyaniline, polythiophene, and derivatives thereof.

13. (Currently Amended) The electrolytic capacitor according to claim ~~11 or 12~~, wherein the weight ratio (ionic liquid/conductive polymer) of the ionic liquid to the conductive polymer is in a range of 1/10,000 to less than 1/10.

14. (Currently Amended) The electrolytic capacitor according to ~~claims 10 to 13~~claim 10, wherein the solution further contains a TCNQ salt.

15. (Original) The electrolytic capacitor according to claim 14, wherein the TCNQ salt is a salt containing a donor composed of a nitrogen-containing heterocyclic compound substituted by an alkyl at the N position and an acceptor composed of TCNQ.

16. (Currently Amended) The electrolytic capacitor according to ~~claims 10 to 15~~claim 10, wherein an anion component of the ionic liquid is an atomic group containing at least fluorine.

17. (Currently Amended) The electrolytic capacitor according to ~~claims 10 to 15~~claim 10, wherein an anion component of the ionic liquid is an atomic group containing at least a sulfonic acid anion ($-\text{SO}_3^-$).

18. (Currently Amended) The electrolytic capacitor according to ~~claims 10 to 15~~claim 10, wherein an anion component of the ionic liquid is an atomic group containing at least a carboxylate anion ($-\text{COO}^-$).

19. (Currently Amended) The electrolytic capacitor according to ~~claims 14 to 18~~claim 14, wherein the weight ratio (ionic liquid/TCNQ salt) of the ionic liquid to the

TCNQ salt is in a range of 1/10,000 to less than 1/2.

20. (Currently Amended) The electrolytic capacitor according to ~~claims 10 to 19~~claim 10, wherein a cation component of the ionic liquid is an imidazolium derivative, an ammonium derivative, or a pyridinium derivative.

21. (Currently Amended) An electrolyte comprising a solution containing the ionic liquid according to ~~claims 1 to 8~~claim 1, wherein the electrolyte is used for forming an oxide film on a metal surface by anodization.

22. (Currently Amended) An electrolyte comprising a solution containing the ionic liquid according to ~~claims 9 to 22~~claim 9, wherein the electrolyte is used for an electrolytic capacitor.